

(emphasis supplied) Thus forms our opinion that Howse and Ashby have a duty to correct inventorship of the 09/796,023 in the US to include Metcalfe and Lax. All parties appear to agree or concede that Metcalfe and Lax are at least co-inventors.

To recap procedural history, inventorship was litigated in the Patents Court of the United Kingdom, the jurisdiction where the inventions occurred and where the priority document and PCT application were filed. In the court of the Comptroller-General of Patents, Trademarks and Designs, the Divisional Director held that Howse and Ashby were not inventors of the patent application GB9814507.1, dated 3 July 1998, and corresponding international application NO.PCT/GB99/02090, of which 09/736,023 is a US national stage. Rather, Metcalfe and Lax were the sole inventors. See paragraph 9 of the Approved Judgment in the High Court of Justice, Chancery Division, Patents Court, case number: CH/204/APP/0255, Mr. Justice Laddie, dated Wednesday, 28 July 2004, attached hereto. Defendants Howse and Ashby appealed, and Mr. Justice Laddie of the High Court allowed their appeal, "to an extent." The High Court allowed the appeal insofar as it sought to "reinstate" the professor [Howse] and Dr. Ashby as co-inventors with Mr. Metcalfe and Dr. Lax in regard to one identified "inventive concept." (See Approved Judgment, paragraph 60.) To summarize: the Divisional Director found that Metcalfe and Lax, not Howse or Ashby, were the sole inventors. The High Court, for the reason discussed below, found joint inventorship in regard to one identified "inventive concept." The instant inventors, Metcalfe and Lax, are appealing the "partial joint inventorship" point they lost in the High Court.

To identify the subject of the pending appeal more specifically, the High Court identified, in the first instance, two "inventive concepts:" the "banana peel effect" and the "sticky poison effect." Mr. Justice Laddie agreed with the Divisional Director that Metcalfe and Lax were the sole inventors of the use of magnetic material, and of the use of a magnetic polarized zone, as well as of the use of such for the "banana peel effect." Mr. Justice Laddie found, however, that Metcalfe and Lax failed to carry their burden of proof that Howse and Ashby did not contribute to a second "inventive concept" that he identified, namely, the "sticky poison effect." See paragraphs 58 and 59. A hearing date on this appeal of Metcalfe and Lax is set for January, 2006.

Note that Applicant has restricted the claims in this continuation application to the use of magnetic material, to the magnetic attraction zone, and to the use of such for a "banana peel

effect.” Such has been found by both Courts to be inventions solely of Metcalf and Lax. (As to material contributed by Dr. Lax, see further discussion below.)

Dr. Lax

Upon consultation with UK attorneys, Dr. Lax has not been added as an inventor to the instant application. (There is no problem with adding Dr. Lax. Dr. Lax is aligned with Mr. Metcalfe and IDA in the litigation against Howse and Ashby.) Discussions with attorneys reveal that Dr. Lax was a chemist called in to consult on various ways to particularly formulate compositions that combined the magnetic material with specific attractants and/or pesticides, apparently a process requiring chemical expertise. Dr. Lax’s contributions have not been claimed in the instant continuation application to applicant’s knowledge. If there is evidence to the contrary, we should be glad to add Dr. Lax.

Double Patenting

In regard to the double patenting rejection, the two applications are not commonly owned.

Since both the Divisional Director and the High Court in the UK agreed that Metcalfe and Lax were the sole inventors of the use of magnetic material, of holding it in place with magnetic attraction, and of its use for the “banana peel effect,” to which the instant continuation application claims are restricted, and since it is clear that the invention of the use of magnetic material and of the use of magnetic attraction and of the use for the banana peel effect were prior in time (and prior in logic) to any use for the “sticky poison effect,” it is equitable that the instant claims issue first.

To the extent the matter is relevant, applicant respectfully requests that the Examiner clarify the sentence in paragraph 3 of the Final Action beginning with, “Although the conflicting claims are not identical, ...” That sentence appears grammatically incomplete.

Claim Rejections

Informalities

Applicant has amended claims 3, 5, 22, 25 and 26 to change “claims” to “claim,” as requested.

Section 112 Rejections

Applicant respectfully traverses the Section 112 rejection, as understood. The examiner asserts that claims 1-7 do not set forth “any positive method steps.” However, claim 1 recites “...

comprising including in the electromagnetically sensitive material at least one magnetic material.” Applicant submits, firstly, that such does comprise a proper and standard positive method step.

Secondly, in regard to the Examiner’s assertion that in order to “trap” insects the use of some sort of trap “structure” must be recited, applicant submits that use of the verb “trap” in a method claim implies some sort of trap structure. Claim 1 recites an improvement to a method of trapping. The method of trapping includes exposing an insect to a composition such that the insect slips into or onto a trap proximate the composition. For a method claim, applicant submits that a sufficient “trap structure” has been recited.

Thirdly, in regard to claim 4, the Examiner finds the phrase “adhere by a magnetic force to a surface which is inclined to the horizontal” to render the claim vague and indefinite, because the surface is not clearly recited “as part of” the trap. Applicant again respectfully traverses.

Claim 1 recites an improvement to a method that includes exposing an insect to a composition including particles such that the insect slips into or onto a trap proximate the composition. Claim 4 further recites adhering the particles to an inclined surface. Applicant submits that the steps of such method claim are not subject to vagueness or indefiniteness, whether or not the surface were explicitly recited as part of the trap.

Section 102 Rejections

Rejection of Claims 15, 16, and 22 under 102(b) as anticipated by Marston ‘724

Claim 15 is an independent composition claim. Claim 16 depends thereon. Claim 22 depends from either claim 15 or claim 16.

Independent claim 15 recites an improvement to a cockroach affecting composition having electromagnetically sensitive particles with an effect upon contact with a cockroach foot such that the cockroach slips. E.g. the April 2, 1998 London Times article had disclosed, “when their [cockroach’s] feet alight on the electrostatic talcum powder with which it [the bridge of the wooden box] is dusted, they slip onto a flypaper and meet their end.”

Marston’s invention relates to a “Therapeutic Pellet for Ruminants” and more particularly;

“This invention relates to pellets for supplying small amounts of biologically active substances, e.g., nutritional or therapeutic substances, to ruminates over an extended period of time, the pellets being especially adapted for the supply trace elements, anti-bloat agents, antibiotics, anthelminitics, hormones or any such drug, nutritional adjuvant or biological product which produce a beneficial

effect when released into the animal's alimentary tract in suitable quantities."

Marston column 1, lines 9-19, emphasis supplied. Webster's II New Riverside Dictionary defines a ruminant as,

"A hoofed, even-toed, usu. horned mammal of the suborder Ruminantia, as a cow, sheep, goat, deer or giraffe having a stomach divided into four compartments and a chewing a cud consisting of regurgitated partially digested food."

The Examiner recites Marston for disclosing "electromagnetically sensitive particles having a behavior modifying effect (... particles may also affect behavior by presenting an obstacle around which the insect must walk) upon contact with a cockroach foot."

Applicant respectfully submits that Marston does not teach or suggest particles having contact with a cockroach foot nor a cockroach affecting composition having an effect upon contact with a cockroach foot such that the cockroach slips.

The Examiner directs attention to Marston column 7, lines 56 to end and column 8 lines 1-47, especially lines 38-41. Applicant reviewed those portions as well as Marston in general and found no reference to a cockroach affecting composition, nor to one having a behavior modifying effect upon contact with a cockroach foot such that the cockroach slips.

The Examiner may be asserting herein an inherent "behavior modifying effect" to be ascribed to particles in general, i.e. any and all particles, per se, present an obstacle around which an insect must walk, hence a behavior modifying effect. Without debating the truth or relevance of the assertion, claim 15 recites an improvement to a cockroach affecting composition having an effect upon contact with a cockroach foot such that the cockroach slips. Marston, by virtue of teaching pellets to be ingested by ruminants, does not teach or suggest particles having an effect upon contact with a cockroach foot such that the cockroach slips.

The Examiner points to no teaching of ferromagnetic oxide in Marston, as per claim 22.

The Examiner's comments in regard to "claim 50" appear inapposite.

Rejection of Claims and 15 and 16 under 102(b) as anticipated by Gref '215

Applicant respectfully traverses the rejection of claims as anticipated by Gref. Claim 15 recites an improvement to a cockroach affecting composition including particles having an effect upon contact with a cockroach foot such that the cockroach slips.

Gref teaches biodegradable, injectable particles for imaging. E.g.

“Injectable nanoparticles or microparticles are provided that are not rapidly cleared from the blood stream by the macrophages of the reticuloendothelial system, and that can be modified as necessary to achieve variable release rates or to target specific cells or organs as desired. The terminal hydroxyl group of the poly (alkylene glycol) can be used to covalently attach onto the surface of the injectable particles biologically active molecules, including antibodies targeted to specific cells or organs, or molecules affecting the charge, lipophilicity or hydrophilicity of the particle. The surface of the particle can also be modified by attaching biodegradable polymers of the same structure as those forming the core of the injectable particles. The injectable particles include magnetic particles or radioopaque materials for diagnostic imaging.” See Gref Abstract.

Gref does not teach or suggest a particle coming into contact with a cockroach foot. Gref does not teach or suggest a cockroach affecting composition including particles having an effect upon contact with a cockroach foot such that the cockroach slips.

In column 14 Gref briefly mentions non-pharmaceutical uses for the injectable particles that include controlled and selective delivery of pesticides, herbicides, insecticides as well as fertilizer and pheromones. However, such uses would have no need for magnetic particles, as no diagnostic imaging is involved. The column 14 comment further does not comprise an enabling disclosure of Applicant's invention. The particles are not taught or suggested to have an effect upon contact with a cockroach foot such that the cockroach slips.

Applicant submits that comments in regard to “claim 20” “claim 30” and “claim 50” are inapposite to the instant application.

Rejections of Claims 1, 3-5, 7, 15, 16, 22 Under 102(b) as Anticipated by Yaffe '052

Claim 1 recites an improvement to a method for trapping insects. Claim 1 recites exposing an insect to a particulate composition such that the insect slips onto a trap proximate the composition. Insect traps are discussed in the specification on page 8 line 16 through page 10 line 16. Page 9 discusses an insect trap including a trapping zone. A trapping zone may be a zone

into which insects fall when they become destabilized. It is mentioned that a trapping zone for insects may include a fluid, powder, a desiccant, chemical toxicant, or an adhesively sticky or tacky surface or any combination thereof for retaining the insects therein. Trapped insects may be left to die or removed for destruction.

Yaffe teaches granular formulations for use in pest control and a novel method for their preparation. See column 1. In particular, Yaffe teaches granular formulations free of fine particles which are subject to the aerial drift of dusts, and further teaches stable granules which are uniform in size, concentration and availability of active ingredients. Column 1. As methods for using his granules, Yaffe teaches applying in fields at certain rates of pounds per acre, and that the granular particles may be distributed by standard airplane or ground equipment. The granules can be broadcast on the soil or worked into the soil. See column 5, 6 and 7.

The Examiner asserts that Yaffe discloses a method of killing pests where an insect to be killed is exposed to a particulate composition such that the insects slips onto a trap proximate the composition. The Examiner suggests that Yaffe teaches that an insect slips onto a trap proximate the composition because insects walking on granules would slip (without any reason given for why or support therefore.) Further, the Examiner asserts that the insects would slip into the area where particles are spread, and that the area where the particles are spread would (inherently?) comprise a trap.

Applicant respectfully submits that Yaffe does not teach or suggest an insect trap as such would be understood by one in the art. Yaffe also does not teach or suggest that insects walking on Yaffe's granules would slip. The Examiner offers no support for this finding. It is neither explicit nor inherent in Yaffe that (1) insects walking on Yaffe's granules would slip or that (2) an area where Yaffe's composition or granules are spread functions as a trap or has a trapping zone. In sum, one of ordinary skill in applicant's art would not read Yaffe as teaching a method for trapping an insect or an insect slipping into or onto a trap proximate Yaffe's granules, as per claim 1.

In regard to claims 3-5, the Examiner does not direct attention to any portion of Yaffe that teaches an oxide, or where particles magnetically adhere to an inclined surface, or utilizing at least 10% of a hard magnetic material.

Re claim 7, Yaffe never mentions a cockroach or a cockroach foot.

Re claim 4, Yaffe does not teach or suggest his pesticides adhering by magnetic force to a surface which is inclined to the horizontal

In regard to claim 15, Yaffe does not teach or suggest a cockroach affecting composition having an effect upon contact with a cockroach foot such that the cockroach slips, as recited in claim 15. The Examiner does not assert that Yaffe explicitly teaches such. Any assertion of inherent teaching is suggested only by hindsight, and comprises speculation without any evidence in support thereof.

In regard to claim 22, the Examiner does not point to any teaching in Yaffe of an oxide.

Section 103 Rejections

Claim 21, 21/16 Rejected Under 103(a) as Unpatentable over Marston and/or Gref (w/wo Klaveness)

Claim 21 recites the composition of claim 15 or 16 wherein the magnetic material includes strontium ferrite. The Examiner asserts that it would have been obvious to utilize strontium ferrite in Marston because strontium ferrite (an alloy exhibiting magnetic properties) would be employed by person of ordinary skill in the art depending upon the ultimately designed composition. The Examiner asserts that strontium ferrite would be known to one of ordinary skill in the art to "be suitable for" Marston's intended use. Applicant respectfully traverses.

On the one hand, strontium ferrite is ten times more expensive than ferrosilicate. A ton of strontium ferrite would cost around 2,000 pounds sterling, whereas a ton of ferrosilicate would cost around 200 pounds sterling. Strontium ferrite would not be utilized unless one knew of an advantage commensurate with its cost.

Applicant has no data on health problems caused by ingesting or injecting strontium ferrite. This is because applicant knows of no instance of mammals ingesting or injecting strontium ferrite. One would not propose ingesting or injecting strontium ferrite without testing it for safety.

Klaveness does not supply the deficiencies of Gref. There is no teaching or suggesting that particles which are of use in magnetic resonance imaging diagnostics should be included in a composition that is to have an effect upon contact with a cockroach foot such that the cockroach slips. Further, Klaveness does not teach or suggest use of strontium ferrite. See above comments

in regard to the cost of strontium ferrite and data regarding its known safety upon ingestion or injection.

Claims 2, 3, 6, 21, 21/16 rejected under 103 (a) as Unpatentable over Yaffe.

Re claim 2, Yaffe discloses a particle size range 4 to 80 mesh (4760 micron to 177 micron.) The preferred range is 8-60 mesh. Yaffe teaches away from small particle size, away from applicant's particle size. See Yaffe column 1. The utility of Yaffe's granular formulation is lauded for not comprising the dusts and small particles of conventional formulation. Yaffe teaches granular formulations free of small particles. Therefore, Yaffe teaches away from a small particle size, or a range of about 2 -100 microns. Applicant's particle size is relevant to embodiments of applicant's invention since a small particle size enables particles to adhere to parts of an insect and to affect stability and slippage.

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Sue Z. Shaper, Applicants' Attorney at 713 550 5710 so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

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I.D.A.'s Skeleton Argument

References and remarks

Note:
References are to the appeal
bundles and tabs e.g. 1/2.

I. WHAT THE CASE IS ABOUT.

1. This case is about who owns an invention. It raises two points of law of public importance.
2. The first is on the general law of property. The right to trace one asset into another when the first asset is confidential information and it has been mixed with other information and cannot be unmixed. We say that if it cannot be unmixed, that is the fault of the mixer, who takes nothing. That is the general law of England (rather like the Roman law of *confusio*.) But until now it has never been considered in relation to confidential information. Hence it is of public importance.
3. The second point is whether a man can count as a joint inventor if all he has done is to add to the confidential information further information that was already well known to those skilled in the art. Surprisingly, we cannot find that there has been any previous decision on the point. It is of public importance because it would be a reproach to our law if anybody could claim to be a joint inventor, and hence claim joint ownership of a patent into which he has incorporated confidential information of another, merely by adding information that was common general knowledge in the art. Yet the decision sought to be appealed leads to that result, and will govern the practice of the Patent Office if not reversed.

1/5 Order of Laddie J

1/6 Judgment of Laddie J

1/7 Patent Office Decision

The Decision was made under ss. 8, 12, 13 and 82 of the Patents Act 1977.

2/8 The Times Article

4. Still further, the case illustrates that the procedure we currently use to determine inventorship calls for judicial reform. It causes great uncertainty and needless expense.

5. This Skeleton Argument is in support of:-

- an application for permission to appeal from the Order of Mr Justice Laddie of 9 May 2005 (pursuant to his Judgment of 28 July 2004)
- if granted, that appeal.

6. The Order of Mr Justice Laddie reversed a decision of the Patent Office under sections 8 and 12 of the Patents Act 1977. So this would be a second appeal under section 97(3) of the Patents Act 1977. Permission cannot be granted unless it would raise an important point of principle or practice or there is some other compelling reason. It would, and there is.

II. THE FACTS.

7. The facts were in dispute. For present purposes we shall assume those facts that were found by the hearing officer (who saw and heard the witnesses under cross-examination) and not reversed by Mr Justice Laddie, plus matters admitted or not in dispute. They are simple.

The Genesis of the Invention.

8. Mr Metcalfe was a consultant to I.D.A., a company interested in magnetic powders. On about 2 April 1998 he read an article in 'The Times': it contained a brief description of something called the Eco Biotic Cockroach Trap. According to the article insects were lured by a bait onto the bridge of a wooden box. When their feet alighted on an electrostatic powder with which it was dusted they slipped down and met their end on a flypaper. There was a photograph of "Philip Howse [the second defendant] demonstrating his cockroach trap" (Dr Howse was an entomologist at the University of

trap". (Dr Howse was an entomologist at the University of Southampton.) The innovation was to receive a Millennium Products award from the Prime Minister. A \$1 million deal had been clinched with an American manufacturer.

2/6 Howse '94, WO 94/00980

9. Unknown to Mr Metcalfe at that stage, Dr Howse's innovation had been fully described in patent applications published in 1994 and was well known to those skilled in that particular art. The electrostatic powder stuck to the feet of the insect and made them slippery: the insect could not walk up an inclined surface so it could not walk out of the trap. It could be used for all kinds of insect pests. Further, the powder could be mixed with a poison (and perhaps a sexual attractant). So if the insect managed to fly away it would die anyway, and perhaps infect its friends. All of that was in the published patent applications.

Mr Metcalfe formally assigned his rights to I.D.A. before the proceedings were started.

10. After reading the article in 'The Times' Mr Metcalfe had the idea that electrostatic powders would lose their sticking-power in humid conditions and that it would be better to use magnetic powders instead. On 26 April 1998 he telephoned Dr Howse and told him about his idea. It is common ground for the purpose of these proceedings that that conversation was in confidence (as were all subsequent technical communications between the parties).

Furthermore if Mr Metcalfe had sought to patent his idea it is at least highly probable that Dr Howse's patent applications would have been cited by the Patent Office, because they were the closest prior art. He would have been required to acknowledge them in his patent.

11. Dr Howse asked Mr Metcalfe why he thought magnetic powders would work. He explained to Mr Metcalfe that it was necessary for the powder to stick to the feet of the insect.

(We shall here assume against ourselves that Mr Metcalfe did not appreciate that already. We say it makes no difference, because it was already well known to those skilled in the art. He would have been told the same thing if he had taken his idea to any competent consultant in the art.)

Dr Howse's theory is that insects generate tiny electric currents, that generate magnetism.

12. It might seem to defy common sense that insects could be magnetic, but Mr Metcalfe was not deterred by the telephone conversation. He still thought magnetic powders were worth trying. His confidence was boosted by a conversation he had had with a colleague Mr. Abbott, who did know about insects: in the past there had been reports about insect magnetism. Mr Metcalfe therefore selected samples of I.D.A.'s magnetic powders he thought might be suitable and he supplied them to Dr Howse for testing. At that stage Dr Howse did not know what the powders were made of, or anything else about them, except that they were magnetic.
13. The powders were tested and were found to work. (The scientific reason is not known for certain, nor does it matter for present purposes.) Flies and cockroaches were allowed to walk over the powders and it was observed that they became unable to walk without slipping and coated themselves by their grooming - the same as with the electrostatic powders.
14. It should be stressed that nothing was special about the aforesaid tests. It was a question of taking Mr Metcalfe's powders, letting insects walk over them, and watching them to see what happened. A couple of postgraduate students were asked to do it - it has never been suggested that they were joint inventors. It has not been suggested that doing the tests required anything except what was common general knowledge in the art and even that is putting it too high.
15. Within a few days Dr Howse was on to the University's patent agent and he described the invention to her. The invention was the use of magnetic powders in substitution for the electrostatic powders of the previously published patent application. This was done without the knowledge or assent of Mr Metcalfe or I.D.A.

16. Long afterwards, Dr Howse claimed that he had had the magnetic powder idea all along and had thought of it himself two years before. His story was not accepted by the Patent Office hearing officer.

Holdings.

17. The hearing officer held that there had been no binding agreement between the parties. This was not appealed. He held that Mr Metcalfe was the sole deviser of the invention. He directed that the patent applications should proceed in the name of I.D.A. alone. This was appealed.
18. The judge was influenced by the fact that, originally, I.D.A. would have been content to forego sole ownership of the patent applications and to take a share. (But he overlooked why: see below.) He held that Mr Metcalfe and Dr Howse, plus two others who should not even have been in contention, were joint devisors. He identified different inventive concepts. He allowed the appeal and directed the applications to proceed in the names of the parties jointly.

The Business Relationship Between the Parties.

19. In these proceedings the parties have been almost like two mutually advancing armies who have walked through each other and ended up facing opposite ways. It is important to grasp why. The judge does not seem to have done so.
20. Before the hearing officer the University contended that Mr Metcalfe had devised *no* part of the invention and that there had been *no* business agreement or understanding between the parties to share it. They wanted the lot. In contrast I.D.A. contended that at all material times there was a business arrangement between themselves and the University whereby both were going to share the benefits of the magnetic powder invention. The hearing officer held

there had been no meeting of minds and no binding agreement.

21. At the risk of stressing the obvious, I.D.A.'s belief that there was an agreement to share the rights had nothing to do with their contention that they were the sole *devisors*. There was no inconsistency. Before I.D.A. came along Dr Howse and the University had already established a valuable business opportunity. They had got the credit and publicity for coming up with the award-winning Eco Trap, albeit with electrostatic powders. Therefore, even though Mr Metcalfe was the sole devisor of the idea of substituting magnetic powders, when it came to marketing the invention it was a rational business choice to go shares with Southampton. And when Southampton tried to patent the idea on its own, giving no credit to Mr Metcalfe, and once it was held that there was no agreement to share the benefits, I.D.A. were perfectly entitled to claim the sole rights.

Breach of Confidence.

22. On 17 March 2005 the Court of Appeal delivered its judgment in the case of *Markem Corp v. Zipher Ltd* [2005] EWCA Civ 267. That was well after both decisions in this case were written and handed down.
23. *Markem* holds that the test under section 8 of the Act is, not who was the *devisor* of the invention, but who is *entitled* to be granted the patent application. Thus where A devises an invention and B applies to patent it, A must assert a cause of action under the general law: in practice, breach of contract or breach of confidence.
24. Because they did not know and could not have known about the *Markem* decision, neither the reasoning of the hearing officer nor that of the judge addressed breach of confidence

(although it had been pleaded). They merely addressed the question of who was the deviser.

25. We can nevertheless show, on the findings of fact and other matters not in dispute, that there was a breach of confidence. The University took I.D.A.'s confidential information, which was supplied to it for one purpose, and used it for a different purpose without the permission of I.D.A.
26. It was the evidence of Mr Metcalfe that the patent applications were made and published without his knowledge or consent or that of I.D.A. Dr Howse denied it. He said that I.D.A. knew there was a patent application. The hearing officer thought he did not have to resolve the conflict. We shall now show that it does not matter. And even if we are wrong about that, the correct decision ought to be that the matter be remitted to the hearing officer for decision, and not just left unresolved.
27. The reason the conflict of evidence does not matter is this. The question is not whether the defendants sought to patent the invention without I.D.A.'s knowledge. The question is whether they took confidential information supplied to them by I.D.A. for one purpose and used it for another.
28. Assume against I.D.A. that they did know the defendants had taken the confidential information and were applying for patent protection, and that I.D.A. did not object at the time. So what? It was I.D.A.'s case that they had an arrangement with Southampton whereby they would get a share in the patents. (Indeed there were heads of agreement that contemplated that Southampton might patent the invention in its sole name, but I.D.A. were to get a share.) Then Southampton might patent the invention but, of course, on the

basis that I.D.A. had a beneficial share.

29. What would be impossible would be that Southampton could take I.D.A.'s confidential information, put it in a patent application in its sole name and cause the application to be published (thus destroying the secrecy), and afterwards rely on the non-existence of a binding agreement. It was never the University's case that I.D.A. had made a gift of the confidential information. There is utterly no evidence to support that. Its case was that I.D.A. had supplied no relevant information at all.

30. It should be stressed that, once the patent application had been published, it was impossible to restore the *status quo ante*. I.D.A.'s information was now in the public domain.

III. MIXING THE INFORMATION.

31. We shall now show why it is I.D.A., and nobody else, that is entitled to be granted the patent applications – even if Dr Howse supplied further relevant information of his own (which, on the other branch of our case, we deny).

32. In summary first: as a result of *Markem* this is now a case about following and tracing. Dr Howse took an asset belonging to I.D.A. (its confidential information) and put it in a patent application, which patent application was published thus destroying the secrecy. Even if it should be held that Dr Howse, and anybody else at Southampton, mixed in further relevant information of their own, even so the further information could not be severed after publication. The result under the law should be that I.D.A. is entitled to assert a sole proprietary right to the patent applications.

Assumptions Against Ourselves.

33. On this branch of our case we shall assume, contrary to our

primary contention, that Dr Howse (or somebody else at Southampton) was a joint devisor of the invention with Mr Metcalfe. In other words we shall assume that by telling Mr Metcalfe that the electrostatic powders needed to stick to the feet of the insect Dr Howse was imparting information of such a character that he, Dr Howse, is to be considered a joint inventor - even though that information was in the public domain.

34. Let us go even further. Let us assume that when the two postgraduate students let the insects walk over Mr Metcalfe's magnetic powder to see if Mr Metcalfe's idea would work, thus confirming the idea's soundness, they did something for which they should be considered joint inventors.

Argument.

35. Our argument contains the following steps:
1. Before the patent application was published I.D.A. had a valuable asset (its confidential information) and a valuable business opportunity to exploit it on its own.
 2. But when the patent application was published the former asset was destroyed and replaced by a different asset (the patent application).
 3. The original asset can no longer be followed, because it has ceased to exist. But it can be traced into the replacement asset and I.D.A. can claim that.
 4. Assuming that Southampton supplied further relevant information of its own, then to the extent that it is now impossible to sever it and restore the *status quo ante* the replacement asset belongs to I.D.A. and nobody else.
 5. The onus lies on Southampton to show that the extra information can appropriately be severed. It cannot

discharge the onus.

36. Note in passing that if the last point is right it is an answer to the Judge's holding: that the University were joint proprietors because the onus lay on I.D.A. to show that Dr Howse et al were *not* joint devisors of the invention.
37. We shall now proceed to develop the reasoning.

1. Before the Patent Application was Published I.D.A. Had a Valuable Asset and a Valuable Business Opportunity to Exploit It On Its Own.

38. Immediately before Mr Metcalfe telephoned Dr Howse on 26 April 1998 he had already come up with the idea of using magnetic instead of electrostatic powders. On the findings, that was his idea, and his alone. For present purposes it does not matter that he was not yet aware of the information that was published in the existing patent applications. Nor does it matter even if he did not yet appreciate that the powder had to stick to the feet of the *insect*.
39. Suppose his idea at that stage was merely to use the magnetic properties of the powders to stop them falling off the sloping surface of the *trap*. In other words, that the bottom layer of the powder would stick to a surface, suitably provided. It would nevertheless remain the case that this was his confidential information, and his alone. He could exploit it, relying on the law of confidential information unless and until he chose to patent it.
40. At that stage it was open to Dr Howse and the University to refuse to have anything to do with Mr Metcalfe or I.D.A. If so, the confidential information would continue to belong to Mr Metcalfe (or I.D.A., it does not matter). And Mr Metcalfe

would have been at liberty to develop his idea elsewhere. It does not matter, but it is almost certain that he would have got to the "feet-sticking" idea --also referred to as the "banana skin concept" in this case -- in the end. He might (and probably would) have gone to another person skilled in the art, who would tell him. Or he might have applied to patent his idea in which case Dr Howse's published patent application would have been cited by the Patent Office, because it was the closest prior art. Indeed he would have been required to acknowledge that prior art at the beginning of his patent. But we do not have to prove those things were certain or even probable. It is enough that Mr Metcalfe (or if one pleases, I.D.A.) had a valuable and independent business opportunity, which they did.

41. Now suppose that Dr Howse, instead of sending Mr Metcalfe on his way, had proceeded to discuss the idea with him, as indeed he did. It still remains the case that, up until the moment that the University published the patent application incorporating the reference to magnetic powders, the valuable and independent business opportunity continued to exist. It does not matter even if the "feet-sticking" concept is to be regarded as a relevant contribution on the part of Dr Howse, despite being in the public domain and well known to those skilled in the art. For it remained the case that I.D.A. could have taken the original "magnetism" idea and developed it independently -- if necessary, by disclosing it and the article in 'The Times', and nothing more, to an independent consultant under "clean room" conditions. Undoubtedly they had that right and it cannot possibly be said that it was devoid of business value. Again we do not have to prove what *would* have happened: it is enough that I.D.A. continued to enjoy that business opportunity up to that point in time.

2. But When the Patent Application was Published the Former Asset Was Destroyed and Replaced By a Different Asset (the Patent Application):

42. We believe this point requires no further discussion. Once the secret was published it was no longer a secret.

3. The Original Asset Can No Longer Be Followed, Because It Has Ceased To Exist. But It Can Be Traced Into the Replacement Asset and I.D.A. Can Claim That.

43. The law has now been clarified by the decision of the House of Lords in *Foskett v. McKeown* [2000] UKHL 29, [2001] AC 102, especially in the speech of Lord Millett (with whose exposition Lord Browne-Wilkinson and Lord Hoffmann agreed).
44. Although that was a case about one who had misapplied trust funds, its principle is not thus confined. Indeed Lord Millett cited with approval a case where beaver pelts were traced into a fur coat, and we shall return to that in the next section.
45. Following and tracing are not remedies, they are exercises in locating assets (they belong to “the realm of evidence”). They are the same at law as in equity. When an asset has been misappropriated one can follow that same asset as it moves from hand to hand, until it ceases to exist (or the claim to it is defeated for some other reason). “Tracing is the process of identifying a new asset as the substitute for the old. Where one asset is exchanged for another, a claimant can elect whether to follow the original asset into the hands of the new owner [if that is still possible] or to trace its value into the new asset in the hands of the same owner.” “The successful completion of a tracing exercise may be

preliminary to a personal claim (as in *El Ajou v. Dollar Land Holdings* [1993] 3 All ER 717) or a proprietary one (as in *Trustees of the Property of F.C. Jones & Sons v. Jones* [1997] Ch 159) or an equitable one.”

46. In this case it is not possible to follow the original asset – I.D.A.’s confidential information – for it has ceased to exist. It has been replaced by the patent applications, in which further relevant information may or may not have been incorporated by Dr Howse. The replacement assets are property. They are patent applications. They are currently registered in the name of Southampton.
47. If I.D.A. has any claim to be the (or an) owner of the replacement assets – as it must have, for both decisions below concur in that, though to different degrees – it must be a proprietary claim. That follows from the wording of section 8 of the Act (‘whether he is *entitled* to be granted (alone or with any other persons) a *patent* for that invention’) as expounded in *Markem*. Before *Markem* was decided it was somehow assumed that it turned on who was the deviser, not on who had a valid claim to the asset. The present point could not have been thought of.

The cause of action is breach of confidence. The taking of confidential information divulged for one purpose and its misuse for another purpose. As already explained, it matters not even if I.D.A. appreciated that the patent applications were going to be made, for they considered they had an agreement for a beneficial share, or at least a gentleman’s agreement (it matters not which). It is not possible to hold there was an agreement to share the beneficial interest in the property on specified terms because Southampton has successfully denied that.

4. Assuming That Southampton Supplied Further Relevant Information of Its Own, Then to the Extent That It Is Now Impossible to Sever It and Restore the Status quo Ante the Replacement Asset Belongs to I.D.A. and Nobody Else.

48. On the assumptions we are making against ourselves this, then, is a case about what happens when B takes confidential information belonging to A and mixes it irretrievably with information of his own ("what Roman lawyers, if they had had an economy which required tracing ... would have called *confusio*": per Lord Hoffmann in *Foskett v. McKeown*).
49. When B takes an asset belonging to A and mixes it with further material of his own, and converts it in to a different asset, it becomes relevant to decide to what extent, if any, there may be an apportionment. When the taken material is fungible (e.g. money or oil or grain) there may be a pro rata division. "But it is to be observed that a pro rata division is the best that the wrongdoer and his donees can hope for": per Lord Millett in *Foskett*. If there cannot be a pro rata decision the wrongdoer takes nothing. The reason is that the irretrievable mixing is the fault of the defendant (*ibid*).
50. If it is not possible to distinguish, the wronged party is entitled to assert a claim to the whole asset. As Lord Browne-Wilkinson said, "such proprietary interest is not dependent on any discretion vested in the court. Nor is the ... claim based on unjust enrichment. It is based on the assertion ... of [a] proprietary interest in identified property". Lord Hoffmann said: "It is, as my noble and learned friend says, a vindication of a proprietary right".

51. Lord Millett said:

Similar principles apply to following into physical mixtures: see *Lupton v. White* (1808) 15 Ves. 442; and *Sandemann & Sons v. Tyzack and Branfoot Steamship Co. Ltd.* [1913] A.C. 680, 695 where Lord Moulton said: "If the mixing has arisen from the fault of B, A can claim the goods." There are relatively few cases which deal with the position of the innocent recipient from the wrongdoer, but *Jones v. De Marchant* (1916) 28 D.L.R. 561 may be cited as an example. A husband wrongfully used 18 beaver skins belonging to his wife and used them, together with four skins of his own, to have a fur coat made up which he then gave to his mistress. Unsurprisingly the wife was held entitled to recover the coat. The mistress knew nothing of the true ownership of the skins, but her innocence was held to be immaterial. She was a gratuitous donee and could stand in no better position than the husband. The coat was a new asset [emphasis supplied] manufactured from the skins and not merely the product of intermingling them. The problem could not be solved by a sale of the coat in order to reduce the disputed property to a divisible fund, since (as we shall see) the realisation of an asset does not affect its ownership. It would hardly have been appropriate to require the two ladies to share the coat between them. Accordingly it was an all or nothing case in which the ownership of the coat must be assigned to one or other of the parties. The determinative factor was that the mixing was the act of the wrongdoer through whom the mistress acquired the coat otherwise than for value.

The rule in equity is to the same effect, as Sir William Page Wood V.-C. observed in *Frith v. Cartland* (1865) 2 H. & M. 417 at p. 418:

"... If a man mixes trust funds with his own, the whole will be treated as the trust property, except so far as he may be able to distinguish what is his own."

This does not, in my opinion, exclude a pro rata division where this is appropriate, as in the case of money and other fungibles like grain, oil or wine. But it is to be observed that a pro rata division is the best that the wrongdoer and his donees can hope for. If a pro rata division is excluded, the beneficiary takes the whole; there is no question of confining him to a lien. *Jones v. De Marchant* 28 D.L.R. 561 is a useful illustration of the principles shared by the common law and equity alike that an innocent recipient who receives misappropriated property by way of gift obtains no better title than his donor, and that if a proportionate sharing is inappropriate the wrongdoer and those who derive title under him take nothing. [Emphases supplied.]

52. It does not matter whether the substituted asset turns out to be more valuable than what was wrongfully taken. In *Foskett v. McKeown* monies were misappropriated and used in part payment of the premiums of an assurance policy. It paid out handsomely and so the claimants got more than their money back. Lord Millett explained as follows:

Where A misappropriates B's money and uses it to buy a winning ticket in the lottery, B is entitled to the winnings. Since A is a wrongdoer, it is irrelevant that he could have used his own money if in fact he used B's. This may seem to give B an undeserved windfall, but the result is not unjust. Had B discovered the fraud before the draw, he could have decided whether to keep the ticket or demand his money back. He alone has the right to decide whether to gamble with his own money. If A keeps him in ignorance until after the draw, he suffers the consequence. He cannot deprive B of his right to choose what to do with his own money; but he can give him an informed choice.

53. In the present case I.D.A. was indeed kept in ignorance until after the "draw". Southampton did not say "What we are intending to do is to put your confidential information into the public domain; turn it into a patent application; and then

successfully deny that you and we have a binding agreement". Or, what comes to the same thing, repudiate any gentleman's agreement.

54. It has not escaped our attention that Southampton might say the information had already been mixed, before they applied for a patent. But the answer to that is that until the patent application was published it was possible to undo the mixture and to do so as a realistic business opportunity available to I.D.A.. See paragraphs 40 to 41 above. After publication the mixture was baked. Now it was impossible to undo the mixture.

If the Wrongdoer's Contribution Is of Peculiar Value.

55. The Court does not have to decide in this case what would happen if the extra information contributed by the wrongdoer was of peculiar value. For example, if he diligently laboured to improve the invention of another or came up with a wonderful improvement. All Southampton did was to tell Mr Metcalfe what was already in the public domain and was well known in the art (that the powder had to stick to the insect's feet) or to carry out routine observations to verify that Mr Metcalfe's idea worked (watching what happened to the insects). Even so, we shall address the point briefly for the sake of completeness.
56. Even where there has been a misapplication of trust funds, as in *Phipps v. Boardman* [1967] 2 AC 46, the court has a power to make a pecuniary allowance in favour of the trustee if he has shown superior skill and diligence to the advantage of the trust. By analogy, that should be possible in a patent case. In an appropriate case the diligent and improving wrongdoer might be awarded a royalty.
57. But, unless the information could somehow be unscrambled after publication, he could not have a proprietary claim to the

patent itself. Anyway it does not arise in the present case.

**5. The Onus Lies on Southampton to Show That the
Extra Information Can Appropriately Be Severed.
It Cannot Discharge the Onus:**

58. It follows from the authority we have cited that in a mixture case the onus lies on the wrongdoer if he wishes to contend for an apportionment.
59. It is possible to discharge the onus where fungible assets have been mixed in ascertainable proportions. In *Foskett v. McKeown* the respective assets (monies) were fungible and the proportions were known. Thus the proceeds of the insurance policy could be apportioned, accordingly.
60. In this case the respective contributions – different sorts of information – are not commensurables. Nor are they like corn or oil which have an ascertainable market value. Nor (even on the assumptions we have made in favour of Southampton) is it possible to ascertain where one contribution ends and the other begins.
61. In the first place, it would be hopeless to excise all references to magnetism from the patent applications, because there would be absolutely nothing left that was patentable. Indeed for all practical purposes the patent applications are the same as the original 1994 application that is in the public domain – almost word for word – with ‘electrostatic’ changed to ‘magnetic’.
62. Secondly, in this case it is not possible to restore the *status quo ante*. We repeat and stress that I.D.A. started off with an asset (confidential information) which was theirs alone and that, until publication of the patent application, they had the right to take it away and start again – under clean room

conditions if necessary. The right to do so was a valuable business opportunity. Indeed in all probability they would soon have arrive at the same destination, free of Southampton.

63. It is therefore respectfully submitted that Southampton cannot discharge the onus and that the patent applications should proceed in the name of I.D.A. alone. The hearing officer arrived at the right conclusion.

IV. A RELEVANT CONTRIBUTION?

64. In fact, neither Dr Howse nor anybody else at Southampton made a relevant contribution. Not so as to entitle them to be considered joint inventors with Mr Metcalfe.
65. Leaving out references to magnetism, all of the information in the patent applications was published and in the public domain. Further, in cross-examination Dr Howse admitted that his electrostatic traps were well known to those skilled in the art. Indeed better known than any other similar product in the field.
66. We have already dealt with the observations carried out by the two students, which was just to watch insects walking on Mr Metcalfe's powders, and remind the Court that not even Southampton contended that the students were joint inventors.
67. In those circumstances it is respectfully submitted that neither Dr Howse nor the students were in any meaningful sense 'devisors' of the invention. If not, anybody could take confidential information, add well known matter, and claim joint inventorship. That would be a reproach to the law. It would be a reproach because the other party would count as a joint inventor too. If the patent were granted to both,

jointly, it would be far less valuable than a patent in sole ownership. See Patents Act 1977 section 36. Thus neither could license ~~the invention without the consent of the other.~~

68. If Southampton did not devise any relevant aspect of the invention they should not be allowed to maintain a claim to the patent applications. See section 7 of the Act.

V. THE BEST PROCEDURE POSSIBLE?

69. A further reason why the Court should exercise its discretion by giving permission to appeal is that this case illustrates that the procedure that is adopted in section 8 and section 12 cases calls out for judicial reform.
70. This case was, after all, about a very simple invention. It need not have involved complex and expensive proceedings.
71. At this stage in the life of a patent application its claims are still fluid. So, unlike an action for patent infringement, the inventive concept is not defined. There may be more than one. They are moving targets. They are capable of being reformulated as the case proceeds, in the light of the emerging evidence and the parties' arguments. In this case they were reformulated even on appeal, by the judge: in a manner which neither party had adumbrated below – even though it was not a rehearing, but a review. (The judge had not seen and heard the witnesses and his fact-finding powers were limited accordingly.)
72. The practical consequence is to cause great uncertainty and expense, because the parties cannot reasonably be expected to foresee all possible eventualities and combinations thereof. For future reference a better mode of proceeding might be to refrain from attempting to identify all of the inventive concepts in advance; instead, the parties might be invited to

identify the information they claim to have originated (if convenient, by reference to a marked-up copy of the patent application). The finder of fact could then proceed to adjudicate on that, whereupon it would be easier to identify the inventive concepts.

73. However that may be, the Court may wish to avail itself of this opportunity for reform.

Reformulating the Inventive Concepts.

74. In this case the hearing officer identified the following inventive concepts (both of which he eventually held were devised by Mr Metcalfe alone):-

- The 'pest/particle' concept. This is the idea that magnetic particles can be made to stick to feet of the insect. A consequence for the insects is, in the words of 'The Times', "they slip".
- The 'particle anchoring' concept. This is the idea that the magnetic nature of the powder will cause it to adhere to the appropriate surface of the trap. An appropriately magnetised surface is provided.

75. On appeal the judge changed the concepts. As we have said, not as put forward by either party below. The risk of procedural unfairness is very evident.

76. The judge formulated the concepts as follows. He held that each of them should be subdivided into:-

- The 'banana skin effect'. This means that the powder causes the insect to slip.
- The 'sticky poison effect'. This means that the powder is mixed with insecticide which kills the insect if it flies away.

77. With great respect, the first one is hard to understand. The

whole point of the 'pest/particle' concept is that the powder sticks to the feet of the insect *to make it slip*. That it slipped was not news to Mr Metcalfe: ~~it was precisely what was~~ stated in the article in 'The Times'.

78. The second one is also problematical. It is scarcely an unknown idea to try to make insecticides stick to flying insects.

VI. AND FINALLY.

79. In preparing this skeleton argument we have sought to address the points of principle which would be determinative of the appeal. Even so it is important for the Court to understand that the judge also failed to carry out an appropriate review. This resulted in him:

- Reversing the hearing officer's findings of fact about who devised the 'particle anchoring' concept without reviewing that part of the decision (§152-160), let alone finding an error of principle (Judgment, §60).

With respect, this was remarkable indeed, since if Mr Metcalfe had not already thought of using magnetism to fix the powder to the sloping surface of the trap it is hard to see why he would telephone Dr Howse in the first place. It resulted in the wholly inexplicable re-introduction of Mr Ashby as a co-inventor. Yet Mr Ashby had nothing whatever to do with the invention, except on the basis of Dr Howse's story (that he had already thought of using magnetic powders himself) which story was rejected by the hearing officer.

- Finding that I.D.A. had not discharged the supposed burden that lay on them to show they had devised the freshly reformulated inventive concept, without reconsidering the evidence for himself to see if it was so

(Judgment,§59, 60). With respect, that cannot be right.

- Reversing the hearing officer's findings of fact based on alleged "contemporary" documents written during the period of the collaboration. The judge used them to support his conclusion that Southampton were joint inventors (Judgment§61-64). In so doing he overlooked that the hearing officer had carefully considered those documents *and* the cross-examination upon them (§134-142): he thought they established nothing .

VII. CONCLUSION.

80. It is respectfully submitted that permission to appeal should be granted and that the appeal should be allowed.

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